

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
29 July 2004 (29.07.2004)

PCT

(10) International Publication Number  
**WO 2004/062741 A1**

(51) International Patent Classification<sup>7</sup>: **A63B 21/008**,  
21/055, F16F 9/06

(21) International Application Number:  
PCT/ZA2003/000007

(22) International Filing Date: 15 January 2003 (15.01.2003)

(25) Filing Language: English

(26) Publication Language: English

(71) Applicants and

(72) Inventors: VAN STRAATEN, Willem, Johannes  
[ZA/ZA]; 130 Trafalgar Place Street, Sandhurst, 2196  
Sandton (ZA). PUZEY, Michael, Roydon [ZA/ZA]; 7  
Hans Schoeman, Malanshof, 2125 Randburg (ZA).

(74) Agents: MCCALLUM RADEMEYER & FREIMOND  
et al.; P.O. Box 1130, 7 Maclyn House, Bordeaux, 2125  
Randburg (ZA).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG,  
SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,  
VN, YU, ZA, ZM, ZW.

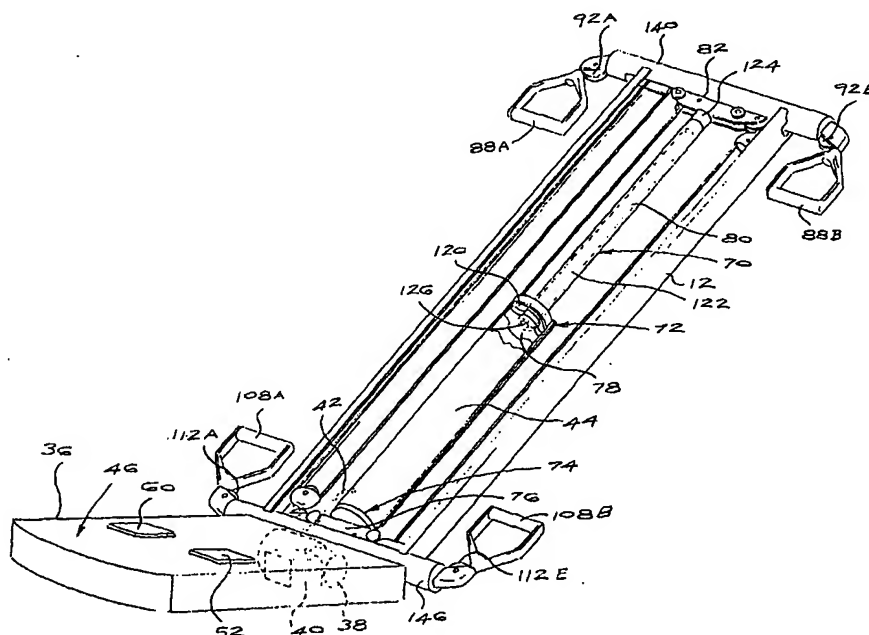
(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI,  
SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: EXERCISE MACHINE



(57) Abstract: An exercise machine which includes a frame (12), at least a first resistance assembly (72) supported by the frame, and at least a first actuator (84) which is movable by a user from a first rest position against a resistance force which is dependent at least on the resistance assembly, to cause movement of at least a first part of the resistance assembly.

WO 2004/062741 A1

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/ZA 03/00007

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A63B21/008 A63B21/055 F16F9/06

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A63B F16F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 709 638 A (MACKERT ROSS A ET AL) 20 January 1998 (1998-01-20) the whole document	1-5, 17-19,21
X	EP 0 614 683 A (B H SA) 14 September 1994 (1994-09-14) the whole document	1-5,17, 18,21
X	US 5 403 257 A (LEHTONEN KARI) 4 April 1995 (1995-04-04) column 1, line 50 - column 4, line 2; figures	1-5,20, 21
X	US 6 375 598 B1 (DAVIS HOWARD P ET AL) 23 April 2002 (2002-04-23) figures; table 1	1-5,21
	-/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the International filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

17 September 2003

Date of mailing of the international search report

13. 01. 04

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Squeri, M

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/ZA 03/00007

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 650 009 A (PAUL FRANCOIS GALLERET) 7 February 1951 (1951-02-07) the whole document -----	1-3,17
X	US 3 387 843 A (CHANDLER LLOYD E) 11 June 1968 (1968-06-11) column 1, line 11 - column 2, line 18; figures -----	1-3,21

Form PCT/ISA/210 (continuation of second sheet) (July 1992)

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/ZA 03/00007

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
  
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
  
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-5, 20, 21

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-5,20,21

An exercise machine which includes a frame, a resistance assembly and an actuator according to the subject-matter of claim 1 is already known from the document US-A-6375598 (D1).

1.1. claims: 1-5,20,21

The special technical features of claim 2 over the known exercise machine are the first mechanical advantage system and the relation between the movement of the actuator and the movement of a part of the resistance assembly.

These features solve the technical problem of reducing the size of the exercise machine whilst maintaining a substantial stroke length.

1.2. claims: 17-19

The special technical features of claim 17 are that the resistance assembly includes at least one resiliently deformable member.

These features solve the technical problem of providing an alternative resistance to the exercising machine disclosed in D1.

Neither the mechanical advantage system nor the relation between the movement of the actuator and the movement of a part of the resistance assembly are disclosed in claim 17.

---

2. claims: 6-16,22

The special technical features of claim 6 are that the resistance assembly is a piston and cylinder assembly and includes an apparatus for establishing a controlled fluid pressure inside the cylinder, the resistance being dependent at least on the fluid pressure inside the cylinder.

These features solve the technical problem of providing a compact resistance to the exercising machine and controlling this resistance.

Neither the mechanical advantage system, nor the relation between the movement of the actuator and the movement of a part of the resistance assembly nor the resiliently deformable member are disclosed in claim 6.

---

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/ZA 03/00007

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5709638	A	20-01-1998	NONE	
EP 0614683	A	14-09-1994	ES 2064263 A2 EP 0614683 A1	16-01-1995 14-09-1994
US 5403257	A	04-04-1995	FI 900597 A DE 4101803 A1 GB 2240727 A ,B	08-08-1991 08-08-1991 14-08-1991
US 6375598	B1	23-04-2002	US 5890996 A AU 718181 B2 AU 3144897 A EP 0910439 A1 WO 9745168 A1	06-04-1999 06-04-2000 05-01-1998 28-04-1999 04-12-1997
GB 650009	A	07-02-1951	NONE	
US 3387843	A	11-06-1968	NONE	